Synopsis of Recent State Proceedings Addressing Performance Measurement for ILEC Support of CLECs

New York:

CASE 97-C-0139 — PROCEEDING ON MOTION OF THE COMMISSION TO REVIEW SERVICE QUALITY STANDARDS FOR TELEPHONE COMPANIES.

The proceeding, initiated February 5, 1997, incorporated a collaborative process, a modified negotiated regulation process, in which smaller working groups met between monthly meetings to explore performance measurement issues and to determine whether new standards were needed. Their consensus agreements were brought for approval of the oversight group. The goal was to produce a consensus document outlining agreement on as many issues as possible for later presentation to The New York Commission.

The New York Commission, approved (March 16, 1998) use of the Interim Guidelines by the parties on a trial basis while they monitor the implementation of the interim guidelines, analyze reported data, and evaluate of the need for further modifications. This trial period will extend through December 1998. Thereafter, in the first quarter of 1999, the participants are to submit their final recommendations to the Commission, including whether the Interim Guidelines (including any modifications) should be adopted as rules and regulations.

Texas:

CASE 16226 — PETITION OF AT&T OF THE SOUTHWEST, INC. FOR COMPULSORY ARBITRATION TO ESTABLISH AN INTERCONNECTION AGREEMENT BETWEEN AT&T AND SOUTHWESTERN BELL TELEPHONE COMPANY

In its September 30, 1997 Arbitration Award in this docket, the Public Utilities Commission of Texas stated that issues addressing the development of performance

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measures and standards would be severed from consideration in this Award. Instead, these issues were to be handled separately in further negotiation sessions that included an arbitrator from the Commission Staff.

At the Commission's direction, AT&T and SWBT engaged in discussions with Commission Staff to attempt to reach a consensus on specific performance criteria and performance measures as they relate to service quality, in particular activities or functions performed by SWBT that have a direct correlation to AT&T's ability to provide reliable telecommunications service. For some of the performance measurement issues, AT&T and SWBT were unable to reach a mutually agreeable resolution. Those issues were brought to the Commission Staff participating in the negotiations for resolution. The Commission Staff issued its decisions on those issues on November 25, 1997, and its decisions have been incorporated into the parties' Interconnection Agreement.

California:

CASE I.97-10-017 — ORDER INSTITUTING INVESTIGATION ON THE COMMISSION'S OWNMOTION INTO MONITORING PERFORMANCE OF OPERATIONS SUPPORT SYSTEMS

The California Commission initiated this proceeding (October 9, 1997) because of a lack of information necessary to enable the Commission to take a full and active role in ensuring that OSS deployment facilitates, rather than inhibits, the growth of competition in the local market. To remedy the situation, the Commission's decided, in the consolidated complaint cases of MCI, AT&T and Sprint, to direct the Telecommunications Division to prepare an investigation for the Commission's consideration (D.97-09-113, pp.25-26).

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As part of the investigation undertaken, parties were to address draft performance measurements outlined with the Commission's Order Initiating Inquiry. The Commission used a variety of sources to develop the draft performance measures. One source was the issues raised in the consolidated complaint cases. Other sources were the Bell Atlantic/NYNEX merger decision, the FCC's Ameritech Michigan decision, as well as suggestions from industry working groups (i.e. the Local Competition Users' Group, or LCUG).

The Commission's stated goal was to ensure that the measures and standards developed as part of its rulemaking included all of those necessary for us to evaluate whether Pacific's OSS system complies with the checklist requirements, as indicated by the FCC in its Ameritech Michigan decision.

Georgia:

CASE 7982-U — PERFORMANCE MEASUREMENT FOR TELECOMMUNICATIONS INTERCONNECTION, UNBUNDLING AND RESALE.

The Commission opened this docket (October 7, 1997) seeking industry input on numerous issues relating to performance measurements. (See Procedural and Scheduling Order, Docket #7892, p.3.) The Commission goals were to (1) determine whether performance measurements and standards are needed in Georgia's local exchange markets; (2) determine reasonable measurements and standards for BellSouth to meet in providing OSS support to competing carriers; (3) determine reasonable reporting requirements to facilitate compliance and ongoing evaluation; (4) assess the need for an expedited dispute resolution procedure to address performance related issues; and (5) assess methods for ensuring compliance, if standards are not met and no improvement is shown. Evaluating and establishing performance measurements was recognized as an important step in developing competition in Georgia's exchange markets. An order was issued May 6, 1998.

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Michigan:

CASE U-11654 — THE COMPLAINT OF BRE COMMUNICATIONS, L.L.C., D/B/A PHONE MICHIGAN, AGAINST AMERITECH INFORMATION INDUSTRY SERVICES, A DIVISION OF AMERITECH SERVICES, INC., ON BEHALF OF AMERITECH MICHIGAN AND REQUEST FOR DECLARATORY RELIEF

On May 14, 1998, the Michigan Public Service Commission Staff filed testimony that proposed "that the Commission initiate immediately a separate proceeding allowing for input from ILECs, CLECs and any other concerned parties to establish the performance measurements, reporting requirements and performance benchmarks by which CLECs and this Commission can more readily assess the provision of interconnection services by the ILECs. Staff proposes that as a starting place Ameritech present its proposal on the measurements, reporting and standards which it believes to be appropriate on which other parties may comment. Completion of such a proceeding will in Staff's opinion, allow more timely considerations of disputes which may occur between parties on subjects such as those which the BRE has delineated in Count II of its complaint" (Direct Testimony of Ann R. Schneidewind, On Behalf of Michigan Public Service Commission, May 14, 1998, Case No. U-11654, pg. 22)

Arizona:

CASE U-3021-96-449 ET AL — IN THE MATTER OF THE PETITION OF AMERICAN COMMUNICATIONS SERVICES AND AMERICAN COMMUNICATIONS SERVICES OF PIMA COUNTY

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FOR ARBITRATION WITH US WEST COMMUNICATIONS OF INTERCONNECTION RATES, TERMS AND CONDITIONS PURSUANT TO 47 USC § 252(B) OF THE TELECOMMUNICATIONS ACT OF 1996.

CASE U-3021-96-448 ET AL. In the Matter of the Petition of American Communications Services and American Communications Services of Pima County for Arbitration with US West Communications of Interconnection Rates, Terms and Conditions Pursuant to 47 USC § 252(b) of the Telecommunications Act of 1996

On September 10, 1997, the Chief Arbitrator in the above-captioned matters issued a Procedural Order requiring the parties to jointly file a detailed listing regarding certain specified quality measurements. Of the 52 measures required by the September 10, 1997 Procedural Order, the parties (US West and the CLECs) agreed to drop 11 of the measures which they recognized are no longer necessary. In addition, the parties were able to agree on what should be measured for seven items. The parties disagreed on what, if anything, should be measured for the remaining 34 measurements.

Due to the number of areas where agreement was not reached, the Arizona Commission, in an order dated March 26, 1998, set forth conclusions on what should be measured for each of the measurements set forth in its September 10, 1997 Procedural Order. The Commission again directed the parties to jointly identify measures required by the September 10, 1997 Procedural Order that are no longer required. The parties were also instructed to identify agreement on what should be measured. For the remaining measurements, the Commission indicated it will adopt the measures identified in its March Order.

The parties were further instructed to jointly file the list of measures, indicating precisely <u>how</u> the measurements should be measured (e.g. statistical

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sampling methods, etc.). In addition, the joint filing was to indicate: 1) what U S WEST's existing performance is for each of the measures; 2) which of the measures have performance standards established by existing approved tariffs and what those performance standards are; and 3) for measurements where there is neither of the above, each party's recommendation as to the appropriate performance standard for that measurement.

Nevada:

PROCEDURAL ORDER DOCKET NO. 97-9022
In re Commission investigation into procedures and methods necessary to determine whether interconnection, unbundled access, and resale services provided by incumbent local exchange carriers are at least equal in quality to that provided by the local exchange carrier to itself or to any subsidiary, affiliate, or any other party.

In this docket, the Nevada Commission requested that interested and affected persons file written comments on the procedures and methods necessary to determine whether interconnection, unbundled access, and resale services provided by incumbent local exchange carriers are at least equal in quality to that provided by the local exchange carrier to itself or to an subsidiary, affiliate, or any other party to which the carrier provides such service.

Comments were particularly solicited on service quality measures that are necessary in order to determine the above service parity. Comments were to include an explanation of (a) what aspects of performance the service quality measures intend to monitor and why it is important to do so, (b) the quantitative data and measurement methodology the service quality measure will employ, (c) the appropriate comparison groups and reporting methods, (d) any required tests of statistical significance, (e) whether or not the service quality measure should be reported

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separately for circuit types or an other similar division or category, and (f) any other items necessary in order to ensure that the above services are being provided at parity.

Comments were also sought on performance standards to apply to those aspects of providing the above services to which direct comparative results do not apply.

Comments have been filed by interested parties and workshops were undertaken the week of May 26-29, 1998.

Synopsis of Parity Measurement Definitions

Pre-ordering Measurements

Average Pre-ordering Query Response Interval

Formula: Σ[(Query Response Date & Time) - (Query Submission Date & Time)] / (Number of Queries Submitted in Reporting Period

Goal: Monitor the ILEC speed of response to real time informational queries submitted by the CLEC. The response interval for each query is determined by computing the elapsed time from the ILEC receipt of a query from the CLEC, whether or not syntactically correct, to the time the ILEC returns the requested data to the CLEC. Elapsed time is accumulated for each major query type (e.g., telephone number selection) and then divided by the associated total number of queries (of the same type) received by the ILEC during the reporting period. Elapsed time for failed queries are monitored as a unique category.

Ordering Measurements

Average Completion Interval

Formula: Σ[(Date & Time of Completion Notification Return to CLEC) - (Order Submission Date & Time)]/(Count of Orders Completed in Reporting Period)

> *Note: this formula is the same as the formula proposed in the NPRM, except the numerator of this formula specifies that the order completion time used for the calculation is the time that the ILEC returns the completion notice to the CLEC.*

Goal: To track the actual completion interval for each order processed during the reporting period. The completion interval is the elapsed time from the ILEC receipt of a syntactically correct order from the CLEC to the ILEC's return of a valid completion notification to the CLEC. Elapsed time for each order is then divided by the associated total number of orders completed within the reporting period.

Percent Orders Completed on Time

Formula: (Count of Orders Completed no later than the ILEC Committed Due Date and Time) / (Count of Orders Completed in Reporting Period) x 100

> *Note: this formula is a positive measurement of the percentage of orders completed on time, whereas the NPRM proposed formula for "Percentage of Due Dates Missed" measures the percentage of orders that were not completed on*

Note: Measurements are described from a CLEC perspective. different terminology may apply for the equivalent comparative measurement of the ILEC

Synopsis of Parity Measurement Definitions

time. The NPRM formula also uses the count of orders scheduled for completion while the preceding formula uses the count of orders completed.

Goal: To report on the proportion of orders completed by the committed due date and time. Both the total numbers of orders completed within the reporting interval and the number of orders completed no later than the committed due date and time (as specified on the initial FOC returned to the CLEC). The resulting count of orders completed no later than the committed due date and time is divided by the total number of orders completed with the resulting fraction expressed as a percentage.

Coordinated Customer Conversion

Average Coordinated Customer Conversion Intervals

Formula: Σ[(Date & Time Re-termination is Completed by ILEC) - (Date & Time of Initial Service Interruption (disconnect) for Customer Transferring Service)]/(Count of Completed Coordinated Conversions in Reporting Period)

Note: although this formula differs slightly from the formula proposed in the NPRM, the intended measurement is the same. This formula provides more detail regarding the beginning and end times of the measurement in an attempt to more clearly define the measurement computation.

Goal: Monitor the time required to transfer an "in service" access line from the switch port of an ILEC to a switch port of a CLEC. The elapsed time between the disconnection of an access line (for a retail customer of the ILEC) from the switch port of the ILEC to the time that the ILEC finishes both the physical work necessary to re-terminate the loop (at the point of re-termination specified by the CLEC) and receives CLEC confirmation that electrical continuity exists. The elapsed time is accumulated for the reporting period and divided by the number of loops that were re-terminated on a coordinated basis.

Order Status Measurements

Average Reject Notice Interval

Formula: Σ[(Date and Time of Order Rejection) - (Date and Time of Order Receipt)]/(Number of Orders Rejected in Reporting Period)

Note: Measurements are described from a CLEC perspective, different terminology may apply for the equivalent comparative measurement of the ILEC

Synopsis of Parity Measurement Definitions

Goal: To monitor that the ILEC promptly returns notices to CLECs, whenever transactions submitted to the ILEC fail to pass agreed upon edits. For ordering, the reject interval is the elapsed time between either (1) the ILEC receipt of an order from the CLEC to the ILEC return of a notice of a syntax rejection to the CLEC or (2) the ILEC receipt of an order from the CLEC to the ILEC return of a notice that the CLEC order was rejected by legacy system edits. The time measurement starts when the ILEC accepts (acknowledges) the order from the CLEC and stops when the ILEC returns a rejection notice to the CLEC. The elapsed time is accumulated and then divided by the count of rejected CLEC orders during the reporting period.

Average FOC Notice Interval

Formula: Σ[(Date and Time of Firm Order Confirmation) - (Date and Time of Order Acknowledgment)]/(Number of Orders Confirmed in Reporting Period)

> *Note: although this formula differs slightly from the formula proposed in the NPRM, the intended measurement is the same. While the formula proposed in the NPRM states that the measurement begins upon "receipt of order", this formula specifies that measurement begins when the ILEC sends the order acknowledgement back to the CLEC. Although the NPRM definition is appropriate, the above calculation limits the FOC interval to just those orders that are syntactically correct..*

Goal: To report on the promptness with which the ILEC either confirms that a CLEC's order will be worked by the date and time specified on the confirmation. The Firm Order Confirmation (FOC) Interval is the elapsed time between the ILEC acceptance of a syntactically correct order and the return of a confirmation to the CLEC that the order will be worked as submitted or worked with the modifications specified on the confirmation. The time measurement starts when the ILEC accepts (acknowledges) the order from the CLEC and stops when the ILEC returns a valid firm order confirmation to the CLEC. The elapsed time is accumulated and then divided by the count of CLEC orders confirmed in the reporting period.

Average Jeopardy Interval

Formula: Σ[(Date and Time of Committed Completion (Due Date) for the Order) - (Date and Time of Jeopardy Notice)]/(Number of Orders Jeopardized in Reporting Period)

Note: Measurements are described from a CLEC perspective, different terminology may apply for the equivalent comparative measurement of the ILEC

Synopsis of Parity Measurement Definitions

Note: although the preceding formula differs slightly from the formula proposed in the NPRM, the intended measurement is the same. The terms used in this formula seek to be more precise and may help to eliminate confusion during implementation.

Goal: To monitor how far in advance of due dates that the ILEC provides notices that the due date commitment will be missed. The Jeopardy Interval is the remaining time between the pre-existing committed order completion date and time (communicated via the FOC) and the date and time the ILEC issues a notice to the CLEC indicating an order is in jeopardy of missing the due date. If the jeopardy notice is not issues or issued after the order due date is passed, then the order is excluded from the computation of the jeopardy interval. The jeopardy interval is accumulated and then divided by the count of CLEC orders placed in "jeopardy" (before the due date is missed) by the ILEC during the report period. As part of this measurement, the ILEC should also report the number of orders that experience a due date miss for which a jeopardy notice was not provided before the due date was missed.

% Orders Given Jeopardy Notices

Formula: (Number of Orders Jeopardized in Reporting Period)/(Number of Orders Confirmed in Reporting Period)

Goal: To monitor the frequency with which the ILEC cannot fulfill CLEC orders as originally committed by the ILEC. This measurement result is the total number of jeopardy notices (the ILEC issues to the CLEC) divided by the total number of order confirmations (FOCs) returned by the ILEC during the identical period.

Average Completion Notice Interval

Formula: Σ[(Date and Time of Notice of Completion Issued to the CLEC) - (Date and Time of Work Completion by ILEC)]/(Number of Orders Completed in Reporting Period)

Goal: To report the average delay between the completion of physical work and the delivery of the notice given to the CLEC that service is ready for use. The Completion Notice Interval is the elapsed time between the ILEC technician's reported completion of physical work and the issuance of a valid completion notice to the CLEC. The elapsed time is accumulated and then divided by the count of CLEC orders for which the ILEC returned completion notices in the reporting period.

Note: Measurements are described from a CLEC perspective. different terminology may apply for the equivalent comparative measurement of the ILEC

Synopsis of Parity Measurement Definitions

Held Order Interval

Held Order Interval

Formula: Σ (Reporting Period Close Date - Committed Order Due Date) / (Number of Orders Pending) for all orders pending and past the committed due date

> *Note: although this formula differs slightly from the formula proposed in the NPRM, the intended measurement is the same. The terms used in this formula seek to be more precise and may help to eliminate confusion during implementation.*

Goal: To report the current average delay for orders that are not completed and past the due date at the end of the report period. The held order interval is established by first identifying all orders, at the close of the reporting interval, that both have not been reported as "completed" via a valid completion notice and have passed the currently "committed completion date" for the order. The number of calendar days between the committed completion date and the close of the reporting period is established for each order, accumulated then divided by the total number of held (pending and past due) orders.

Percentage of Orders Held

Formulas:

(# of Orders Held for ≥ 90 days) / (Total # of Orders Pending But Not Completed) x 100

(# of Orders Held for ≥ 15 days) / (Total # of Orders Pending But Not Completed) x 100

Goal: To monitor the relative size of the inventory of backlogged orders that have remained in a backlog state for an extended period of time. This measure utilizes a subset of the data accumulated for the "held order interval" measure. All orders, for which the "held order interval" equals or exceeds 90 (or 15) days, are counted and divided by the total number of pending and past due orders.

Installation Troubles

Percent of Troubles Within 30 Days of Order Activity

Note: Measurements are described from a CLEC perspective, different terminology may apply for the equivalent comparative measurement of the ILEC

Synopsis of Parity Measurement Definitions

Formula: (Total Number of Trouble Tickets Associated With Lines That Had Service Order Activity Within 30 Days of the Trouble Report)/(Total Number of Orders Completed in the Report Period)

> *Note: this formula differs slightly from the proposed formula in the NPRM. The preceding formula measures troubles that are received after any service activity, whereas the proposed NPRM formula only measures troubles for "new" service orders.*

Goal: To monitor the effectiveness and accuracy of ILEC service delivery activities. The percentage of troubles within 30 days of order activity is computed by accumulating the number of trouble ticket submitted by a CLEC (to the ILEC) for a service arrangement that had at least one service order activity within the 30 calendar days preceding the creation of the current trouble ticket. The count of troubles is divided by the count of service affecting orders received by the ILEC from the CLEC during the report period.

Ordering Quality Measurements

Percent Order Flow Through

Formula: [(Total Number of Orders Processed Without Manual Intervention)/(Total Number of Orders Sent)] x 100

> *Note: although this formula differs slightly from the formula proposed in the NPRM, the intended measurement is the same. The terms used in this formula seek to be more precise and may help to eliminate confusion during implementation.*

Goal: To monitor the extent to which human intervention is required to assure that an order is successfully delivered to the work group(s) that must take action in order to permit service delivery. For each type of order, the count of orders that arrive at the destination work group(s) without human intervention from initial order creation by the customer contact agent until the time the order is delivered to the appropriate work group responsible for physical work. The resulting count is divided by the total number of orders (of the same type) that were processed during the reporting period with the result expressed as a percentage. The measurement is separately recorded for both the ILEC and the CLEC according to the designated reporting dimensions.

Percent Order Accuracy

Formula: [(Σ Orders Completed w/o Error) / (ΣOrders Completed)] x 100

Note: Measurements are described from a CLEC perspective, different terminology may apply for the equivalent comparative measurement of the ILEC

Synopsis of Parity Measurement Definitions

Goal: To assess the accuracy of work performed by the ILEC in response to CLEC orders. The original account profile and the CLEC order (and any supplements) sent to the ILEC are compared to the services and features reflected upon the account profile following completion of the order by the ILEC. An order is "completed without error" if all service attributes and account detail changes completely and accurately reflects the activity specified on the original and supplemental CLEC orders. The count of orders completed without errors is divided by the total number of orders completed in the reporting period and expressed as a percentage.

Database Updates and Accuracy

Percentage of Accurate Database Updates

Formula: [(Σ Updates Completed w/o Error) / (Σ Updates Completed)] x 100

> *Note: this formula is not limited to just the 911/E911 databases (as is reflected in the NPRM), but is applicable to all types of databases where the ILEC is acting on the behalf of the CLEC.*

Goal: To monitor the effectiveness and accuracy of ILEC database update activities. For each update completed during the reporting period, the original update that the CLEC sent to the ILEC is compared to the database following completion of the update by the ILEC. An update is "completed without error" if the database completely and accurately reflects the activity specified on the original and supplemental update (e.g., orders) submitted by the CLEC. Each database (e.g., E911/911, LIDB, Directory and Directory Listings) should be separately tracked and reported.

Percentage of Missed Due Dates (or Average Database Update Interval)

Formula: Mean Database Update Interval = [(Completion Date and Time of Database Update) – (Submission Date and Time of Database Change)] / (Total Number of Updates Completed During Reporting Period)

> *Note: the terms used in this formula seek to be precise and may help to eliminate confusion during implementation. This formula is not limited to just the 911/E911 databases (as is the NPRM formula), but is applicable to other types of databases where the ILEC acts on behalf of the CLEC.*

Note: Measurements are described from a CLEC perspective, different terminology may apply for the equivalent comparative measurement of the ILEC

Synopsis of Parity Measurement Definitions

Goal: To monitor the timeliness of ILEC database update activities. The actual update interval is determined for each update processed during the reporting period. It is the elapsed time from the ILEC receipt of a syntactically correct transaction from the CLEC to the ILEC's accurate completion of updating all databases impacted by the CLEC activity. Elapsed time for each update is accumulated for each impacted database (e.g., E911/911, LIDB, Directory and Directory Listings). The time required to update each database is accumulated and then divided by the associated total number of updates completed within the reporting period and expressed as a percentage.

The percentage of updates completed on time is determined by first counting, for each database, both the total numbers of updates completed within the reporting interval and the number of updates completed within the committed interval. For each database, the count of updates completed no later than the committed due date is divided by the total number of updates completed with the resulting fraction expressed as a percentage.

Maintenance and Repair Measures

Average Time To Restore

Formula: Σ[(Date and Time of Trouble Ticket Resolution Notification Returned to Competing Carrier) - (Date and Time Ticket Logged With Incumbent LEC)] / (Count of Trouble Tickets Resolved in Reporting Period)

Goal: To monitor the actual restoral interval for customer requested maintenance. The restoral interval is the elapsed time from the CLEC logging a trouble ticket with the ILEC, regardless of the ultimate resolution of the trouble, to the time the ILEC returns a valid trouble resolution notification to the CLEC. The elapsed time is accumulated and divided by the count of maintenance tickets reported as resolved by the ILEC during the report period.

Frequency of Troubles

Formula: [(Count of Initial & Repeated Trouble Reports in the Current Period) / (Number of Service Access Line in Service at End of the Report Period)] x 100

Note: although this formula differs slightly from the formula proposed in the NPRM, the intended measurement is the same. The terms used in the numerator

Note: Measurements are described from a CLEC perspective, different terminology may apply for the equivalent comparative measurement of the ILEC

Synopsis of Parity Measurement Definitions

of this formula seek to be more precise in an effort to eliminate confusion during implementation.

Goal: *To report on the overall quality of the service capabilities delivered by the ILEC to the CLEC.* The trouble rate metric is computed by accumulating the total number of maintenance tickets logged by a CLEC (with the ILEC) during the reporting period. The total count of tickets for each reporting category is divided by the associated total number of "service access lines" in service for the CLEC at the end of the report period.

Frequency of Repeat Troubles

Formula: [(Count of Service Access Lines Generating More Than One Trouble Within a Continuous 30 Day Period) / (Number of Trouble Reports in the Report Period)] x 100

Note: although this formula differs slightly from the formula proposed in the NPRM, the intended measurement is the same. The terms used in the numerator of this formula seek to be more precise in order to help eliminate confusion during implementation.

Goal: *To monitor the effectiveness and accuracy of ILEC repair activities.* The repeat trouble rate measure is computed by accumulating the number of trouble tickets submitted by a CLEC (to the ILEC) for a service arrangement that had at least one prior trouble ticket within the 30 calendar days preceding the creation of the current trouble ticket. The count of repeat troubles is divided by the count of initial trouble reports received by the ILEC from the CLEC during the report period.

Percentage of Customer Troubles Resolved Within Estimate

Formula: [(Count of Customer Troubles Resolved By The Quoted Resolution Time and Date) / (Count of Customer Trouble Tickets Closed)] x 10

Goal: *To report on the reliability of repair time estimates provided by the ILEC.* The initial ILEC estimate for repair completion date and time is compared to the actual repair date and time (ticket closure as defined in Time to Restore metric). When the actual repair date and time is on or before the initially provided estimate, the count of "troubles resolved within estimate" is incremented by one. The resulting total is divided by the total number of troubles resolved for the report period and expressed as a percentage.

Maintenance Query Response Time

Note: Measurements are described from a CLEC perspective, different terminology may apply for the equivalent comparative measurement of the ILEC

Synopsis of Parity Measurement Definitions

Formula: Σ[(Query Response Date & Time) - (Query Submission Date & Time)] / (Number of Queries Submitted in Reporting Period)

Goal: Monitor the ILEC speed of response to real time informational queries submitted by the CLEC. The response interval for each query is determined by computing the elapsed time from the ILEC receipt of a query from the CLEC, whether or not syntactically correct, to the time the ILEC returns the requested data to the CLEC. Elapsed time is accumulated for each major query (or transaction) type and by subtype (e.g., trouble entry) and then divided by the associated total number of queries (of the same type) received by the ILEC during the reporting period. Elapsed time for failed queries is monitored as a unique category.

Billing Measurements

Average Time to Provide Recorded Usage Records

Formula: {Σ[(Data Set Transmission Date)-(Date of Message Recording)]} / (Count of All Messages Transmitted in Reporting Period)

> *Note: this formula differs slightly from the formula proposed in the NPRM, the intended measurement is largely the same. The terms used in the numerator of this formula seek to be more precise in order to help eliminate confusion during implementation.*

Goal: To report on the average amount of time between the recording of a usage record and its delivery to the CLEC. This measure captures the elapsed time between the AMA recording of usage data, generated either by CLEC retail customers or by CLEC access customers, and the time when the data set, in a compliant format, is successfully transmitted to the CLEC. For each usage record, the calendar date and time of usage recording is compared to the calendar date and time of successful transmission of the data set to the CLEC. The elapsed delivery time is accumulated for each usage record with the resulting total being divided by the number of complete usage records in all the data sets transmitted.

Average Time to Deliver Invoices

Formula: {Σ[(Invoice Transmission Date)-(Date of Scheduled Bill Cycle Close)]} / (Count of Invoices Transmitted in Reporting Period)

Note: Measurements are described from a CLEC perspective, different terminology may apply for the equivalent comparative measurement of the ILEC

Synopsis of Parity Measurement Definitions

Note: although this formula differs slightly from the formula proposed in the NPRM, the intended measurement is the same. The terms used in the numerator of this formula seek to be more precise in order to help eliminate confusion during implementation.

Goal: To monitors the elapsed number of days between the scheduled close of a Bill Cycle and the ILEC's successful transmission of the associated invoice to the CLEC. For each invoice, the calendar date of the scheduled close of Bill Cycle is subtracted from the calendar date for successful invoice transmission to the CLEC. The elapsed time is accumulated for all invoices and then divided by the count of complete invoices sent in the reporting period.

Usage Accuracy
Invoice Accuracy

Formulas:

Percent Invoice Accuracy = [(Number of Invoices Delivered in the Reporting Period that Have Complete Information, Reflect Accurate Calculations and are Properly Formatted) / Total Number of Invoices Issued in the Reporting Period)] x 100

Percent Usage Accuracy = [(Number of Usage Records Delivered in the Reporting Period That Reflected Complete Information Content and Proper Formatting) / (Total Number of Usage Records Transmitted)] x 100

Goal: To report on the quality and completeness of usage records and invoices that the ILEC delivers to the CLEC. The completeness of content, accuracy of information and conformance of formatting is determined based upon the terms of the individual CLEC interconnection agreements with the ILECs. The ILEC will establish a quality control process (disclosed to CLEC) that is no less rigorous than the most rigorous quality monitoring established in the ILEC billing service contracts for long distance service providers. The records and invoices delivered by the ILEC must simultaneously meet the standards relating to content, accuracy and formatting in order to be counted as accurate. Each of the above measurement results, is expressed as a ratio (percentage) of accurate records (or invoices) to the total records (or invoices) delivered.

General and Support Center Measurements

System Availability

Note: Measurements are described from a CLEC perspective, different terminology may apply for the equivalent comparative measurement of the ILEC

Synopsis of Parity Measurement Definitions

Formula: [(Hours Functionality is Available to CLECs During Report Period) / (Number of Hours Functionality was Scheduled to be Available During the Period)] x 100

Goal: To monitor that individual CLEC-ILEC interfaces are available and operable according to pre-established schedules. The cumulative actual hours OSS functionality is available to a CLEC is compared to the cumulative number of hours that the ILEC planned to offer and support CLEC access to ILEC OSS functionality during the reporting period.

Center Responsiveness (Speed of Answer)

Formula: Σ [(Date and Time of Call Answer) - (Date and Time of Call Receipt)] / (Total Calls Answered by Center)

Goal: To establish that CLECs' calls for assistance are promptly answered by ILEC support center personnel. Speed of Answer is determined by measuring and accumulating the elapsed time from the entry of a CLEC call into the ILEC call management system until the CLEC call is transferred to the ILEC personnel assigned to handling CLEC calls for assistance. The accumulated time is divided by the number of calls answered by the ILEC personnel in the support center being monitored.

Call Abandonment (Support Center)

Formula: (Count of Calls Terminated Before Answer During the Reporting Period) / (Count of All Calls Placed in Queue During the Reporting Period)

Goal: To monitor the proportion of CLEC calls for assistance (from the support center of the ILEC) terminated before an ILEC support person answers the call. The number of calls received by the call distribution system of the ILEC center is accumulated for the reporting period, regardless whether the call actually is transferred to ILEC personnel for processing. In addition, a count is accumulated of all calls that are subsequently terminated by the calling party or dropped due to equipment failure before transfer to the service agent for processing. The accumulated count of calls abandoned (terminated) is divided by the total count of all call received at the center being monitored.

Operator Service and Directory Assistance Measures

Average Time To Answer

Formula: [Σ(Date and Time of Call Answer) - (Date and Time of Call Receipt)] / (Total Calls Answered on Behalf of CLECs in Reporting Period)

Note: Measurements are described from a CLEC perspective, different terminology may apply for the equivalent comparative measurement of the ILEC

Synopsis of Parity Measurement Definitions

Note: this formula differs slightly from the formula proposed in the NPRM. The preceding formula measures only the time from insertion into queue until the service agent receives the call. Because the automated response unit generally preprocesses the call before placing it in the agent queue, it may be difficult to accurately monitor time beginning with receipt by the automated response unit.

Goal: To report on the promptness with which OS and DA calls are answered by the ILEC when the ILEC provides such services on behalf of the CLEC. Speed of answer is monitored through the call management technology used to distribute calls to ILEC agents (i.e., call receipt personnel staffing Directory Assistance or Operator Service Positions). Speed of Answer is determined by first accumulating the elapsed time from the entry of a CLEC retail customer call into the ILEC call management system queue until the CLEC retail customer call is transferred to the ILEC personnel assigned to handling CLEC calls for assistance (whether DA or OS). The accumulated time is then divided by the total count of calls transferred to the ILEC OS or DA service agent.

Network Performance Measurements

Network Performance Parity

Formula: Σ(Network Performance Parameter Result) / (Number of Tests Conducted)

Goal: To monitor the key performance parameters (i.e., engineered characteristics) to assure the quality of the network infrastructure delivered to CLECs. Based upon a random and statistically reliable (at a preset level) sample of network configurations employed by the CLEC, the network performance is monitored and recorded, for generally accepted parameters (e.g., loss, blocking, etc.) using generally accepted testing procedures. The measured values are accumulated across the sample base and the mean and associated variance computed.

Percent Blocking on Interconnection (Final) Trunks
Percent Blocking on Common Trunks

Formula: [(Total number of overflow calls during busy hour) / (Total number of calls processed successfully during busy hour)] x 100

Note: although this formula differs slightly from the formula proposed in the NPRM, the intended measurement is the same. The terms used in this formula seek to be more precise and in order to help eliminate confusion during implementation.

Note: Measurements are described from a CLEC perspective, different terminology may apply for the equivalent comparative measurement of the ILEC

Synopsis of Parity Measurement Definitions

Goal: Assure that a sufficient quantity of trunks are operational for CLECs so that an acceptable grade of service can be delivered to the CLEC retail customers. The "Percent Blocking on Trunks" monitors overflow situations during the busiest hour of the Reporting Period for those trunk groups accessed by CLEC customers. The busiest hour during the reporting period (as defined by the highest peg count or call attempts on the trunk group) serves as the basis for computation of this measurement result. The count of overflows, those call attempts that were blocked due to inadequate installed capacity, trunks turned down due to maintenance, or other Network failures, occurring during the identified busy hour is divided by the number of calls successfully processed over the trunk group during the same time period. The resulting proportion is expressed as a percentage. Results are reported separately by major type of trunk group.

Average Time to Respond to Collocation Requests

Formula: [(Request Response Date & Time) - (Request Submission Date & Time)] / (Count of Requests Submitted in Reporting Period)

Goal: To report on the promptness with which the ILEC either confirms that a CLEC's order will be worked as specified or identifies the changes necessary in order to work the order submitted by the CLEC. The response interval for each collocation request is the elapsed time from the ILEC receipt of a valid collocation request (or inquiry) from the CLEC, to the time the ILEC returns the requested information or commitment to the CLEC. Elapsed response time is accumulated for each type of collocation space request and then divided by the associated number of collocation requests received by the ILEC during the report period. The measurement is similar to the Firm Order Confirmation interval for resold services and unbundled network element orders and could be reflected as a separate category within the FOC interval reporting.

Average Time to Provide Collocation Arrangements

Formula: Σ[(Collocation Completion Date & Time) - (Order Submission Date & Time)] / (Count of Collocation Orders Completed in Reporting Period)

Goal: To track the actual completion interval for each order processed during the reporting period. The interval is the elapsed time from the ILEC receipt of a syntactically correct order for collocation (from the CLEC) to the ILEC's return of a valid completion notification to the CLEC. Elapsed time for each order is then divided by the associated total number of collocation orders completed within the reporting period for each type of collocation. The measurement is similar to the Average Completion Interval

Note: Measurements are described from a CLEC perspective. different terminology may apply for the equivalent comparative measurement of the ILEC

Synopsis of Parity Measurement Definitions

for resold services and unbundled network element orders and could be reflected as a separate category for that measurement.

% of Due Dates Met – Collocation Arrangements

Formula: [(Count of Collocation Commitments Met) / (Count of Collocation Orders Scheduled for Completion During Reporting Period)] x 100

> *Note: this formula is a positive measurement the percentage of collocation arrangements completed on time), whereas the NPRM proposed formula measures the percentage of collocation arrangements that were not completed on time. Employing a due date met orientation is an effort to be consistent with the Ordering Measurements category.*

Goal: To report on the proportion of collocation requests that are completed by the committed due date. For each type of collocation, both the total numbers of orders completed within the reporting interval and the number of orders completed by the committed due date (as specified on the initial confirmation returned to the CLEC) are counted. The resulting count of orders completed no later than the committed due date is divided by the total number of orders completed. The measurement is similar to the Percent Completed on Time for resold services and unbundled network element orders and could be reflected as a separate category within the Percent Completed on Time measurement.

Unbundled Network Element Measures

Function Availability

Formula: [(Amount of Time a Functionality is Useable by a CLEC in a Specified Period)/(Total Time Functionality Was Intended to Be Useable)] x 100

Goal: To monitor the availability of UNE functionality requested by a CLEC. Availability is measured for each unique UNE functionality (or combination of UNEs). The number of times that the functionality executes properly is shown divided by the number of times that the execution of the functionality was requested or initiated and expressed as a percentage.

Timeliness of Element Performance

Note: Measurements are described from a CLEC perspective, different terminology may apply for the equivalent comparative measurement of the ILEC

Synopsis of Parity Measurement Definitions

Formula: [(Number of Times Functionality Executes Successfully Within the Established Timeliness Standard) / (Number of Times Execution of Functionality was Attempted)] x 100

Goal: To monitor the frequency that UNE functionality operates in a timely manner. Timeliness will be measured for each unique UNE (or combination of UNEs). The number of times that the functionality executes properly within the established standard time frame is accumulated, divided by the number of times that the execution of the functionality was requested or initiated with the result expressed as a percentage.

Note: Measurements are described from a CLEC perspective, different terminology may apply for the equivalent comparative measurement of the ILEC

Summary of Current Support For Proposed Performance Measurements

Measurement	AT&T	NPRM	DOJ	LCUG V6.1	SWBT	PB	BST	BA-NYNX	Amer	USW
Pre-ordering										
Average [Query] Response Time	V	(¶43)	V	V	V	V	V	V	V	V
Provisioning										
Average Completion Interval	V	(¶53)	V	V	V	V	V	V	V	V
Percentage Due Dates Missed (or Percentage Completed on Time)	V	(¶54)	V	V	V	V	V	V	V	V
% Complete Within "x" Days			V		V	V		V		
Coordinated Customer Conversions										
Average Coordinated Customer Conversion Interval	V	(¶57)	V				V			
Order Status Measurements										
Average Reject Notice Interval	V	(¶60)	V	V	V	V	V	V		V
% Rejects Within "x" Hours					V			V		
Average FOC Notice Interval	V	(¶61)	V	V	V	V	V		V	V
% FOCs Within "x" Hours					V	V		V	V	
Average Jeopardy Interval	V	(¶62)	V	V						
Percentage Orders Given Jeopardy Notices	V	(¶63)	V	V						
Average Completion Notice Interval	V	(¶64)	V	V	V	V		V	V	V
% Completion Notices Provided Within "x" Hours					V			V	V	
Held Order Interval										
Average Interval for Held Orders	V	(¶66)	V	V			V		V	
Average Delay Due to Lack of Facilities					V	V		V		V
Installation Troubles										
Percentage of Troubles in "x" Days for New Orders	V	(¶68)	V		V	V		V	V	V
Ordering Quality Measurements										
Percent of Order Flow Through	V	(¶72)	V		V	V	V	V		
Orders Rejected		(¶75)	V	V	V	V	V	V	V	
Percentage Order Accuracy	V		V	V	V	V	V		V	

Summary of Current Support For Proposed Performance Measurements

Measurement	AT&T	NPRM	DOJ	LCUG V6.1	SWBT	PB	BST	BA-NYNX	Amer	USW
Average Submissions per Order		(¶76)	V			V	V			
Database Updates and Accuracy										
Percentage of Accurate Database Updates	V	(¶78)	V			V	V			V
Percentage of Missed Due Dates (or Average Interval to Update)	V	(¶79)	V			V	V		V	V
Percentage of Records Not Updated by Next Business Day									V	V
Average Error Correction Interval					V					
Repair & Maintenance										
Average Time to Restore	V	(¶82)	V	V	V	V	V	V	V	V
Frequency of Troubles in a 30-Day Period	V	(¶84)	V	V	V	V	V	V	V	V
Frequency of Repeat Troubles in 30-Day Period	V	(¶84)	V	V	V	V	V	V	V	V
% of Customer Troubles Resolved Within Estimate	V	(¶85)	V	V	V	V	V	V		V
Maintenance Query Response Time	V						V	V		
Percent Out of Service >24 Hours (or <24 Hours)			V		V	V	V	V	V	
Billing										
Average Time to Provide Usage Records	V	(¶89)	V	V	V					V
% Usage Records > "x" Days Old						V	V	V	V	
Average Time to Deliver Invoices	V	(¶90)	V	V	V		V			V
% Invoices > "x" Days Old						V	V	V	V	
Usage Accuracy	V		V	V	V		V			
Invoice Accuracy	V		V	V	V	V	V			
General Measurements										
Systems Availability	V	(¶91)	V	V	V	V	V	V	V	V
Center Responsiveness (Speed of Answer)	V	(¶92)	V	V	V	V	V		V	V
Center Availability			V					V		
Call Abandonment (Support Center)	V			V						
OS/DA Average Time to Answer	V	(¶93)	V	V	V	V	V	V	V	V